



Docket No. PD-980179

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5-17-01

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Cellier

Serial No: 09/235,112

Group Art Unit: 3661

Filed: 01/21/1999

Examiner: J. Louis-Jacques

Title: OVERHEAD SYSTEM OF INCLINED ECCENTRIC
GEOSYNCHRONOUS ORBITING SATELLITES

RESPONSE TO OFFICE ACTION

Assistant Commissioner for Patents
Washington, D.C. 20231

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Sir:

Applicant wishes to thank the Examiner for considering the present application. In the Office Action mailed February 1, 2001, claims 1, 4-11 and 13-18 are pending in the application. Claims 8-11 and 13-18 stand allowed. Applicant respectfully requests the Examiner to reconsider the present application in view of the comments below.

Claims 1 and 4-7 stand rejected under 35 USC §102(e) as being anticipated by *Fowell* (U.S. Patent No. 6,135,389). Applicant respectfully traverses this rejection.

The present invention has the advantages not realized, taught or suggested in the prior art. The present invention provides inclined eccentric geosynchronous orbits for a satellite system that advantageously enables a consistently high elevation angle from a service area. As will be discussed further below, the differences from the *Fowell* reference are highlighted by the fact that claim 1 recites "an operating arc defined by a subset of points on said skytrack toward said service area, said satellite operating on said operating arc."

The Examiner points to Cols. 1 and 2 of the *Fowell* reference for reciting the elements of claim 1. Applicant respectfully submits that each and every element of claim 1 is not found in the *Fowell* reference and therefore claim 1 is believed to be patentable over *Fowell*. The *Fowell* reference is directed to a subterranean target steering strategy for a satellite. However, in columns 1 and 2 the difference between geostationary orbits and geosynchronous orbits are described. As mentioned in Col. 2, beginning on line 8, "Due to the payload consequences for non-geostationary satellites, there is interest in keeping the orbit close to geostationary, and many geosynchronous satellites are kept within a latitude range of plus or minus six degrees in service, and within a longitude range of plus or minus 0.1 degrees at the equatorial plane crossing." The present invention has a substantially greater elevation angle than is taught or suggested in the *Fowell* reference. This is to obtain the advantageous results of providing a high elevation angle from the horizon. As is taught in the present application, examples are given above 50 degrees for the minimum elevation angle. Although these angles are not specifically recited in the claims, the consequence of having a high minimum elevation angle is the last clause of claim 1. That is, an operating arc that is defined by a *subset* of points in the skytrack within the service area is used. The satellite operates during the operating arc. The operating arc is less than the full skytrack, which is what is meant by the terms "subset of points."

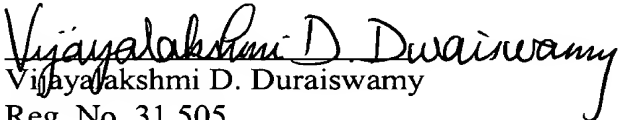
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The *Fowell* reference teaches operating a satellite during the full orbit to simulate geostationary orbits. The meaning of the clause quoted above illustrates that the *Fowell* reference is interested in maintaining a geosynchronous satellite near a geostationary orbit. When this is the case, the satellite will always be in view and therefore an operating arc is not needed or required as recited in claim 1. In other words, the satellite will be continuously operating.

Therefore, because each and every element of claim 1 is not recited in the *Fowell* reference, applicant respectfully believes that claim 1 is patentable. Likewise, because claims 4-7 recite more specific limitations to claim 1, these claims are also believed to be patentable over *Fowell* as well.

In light of the above amendments and remarks, applicant submits that all rejections are now overcome. The application is now believed in condition for allowance and expeditious notice thereof is earnestly solicited. Should the Examiner have any questions or comments which would place the application in better condition for allowance, he is respectfully requested to call the undersigned attorney.

Respectfully submitted,


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